

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Allocation of Spectrum for Non-Federal)	ET Docket No. 13-115
Space Launch Operations)	
)	
Amendment of Part 2 of the Commission's)	RM-11341
Rules for Federal Earth Stations)	
Communicating with Non-Federal Fixed)	
Satellite Service Space Stations)	

REPLY COMMENTS OF GLOBALSTAR, INC.

Globalstar, Inc. (“Globalstar”) hereby replies to comments on the Federal Communications Commission’s (“Commission’s”) Further Notice of Proposed Rulemaking regarding spectrum allocation, licensing, and technical issues for commercial space launch communications in the United States.¹ With respect to communications between commercial space launch vehicles and satellites operating in the L band at 1610-1626.5 MHz, the Commission’s existing case-by-case experimental licensing procedures are an efficient means of accommodating the limited number of launch vehicle-to-satellite links that appear likely in that frequency band. In addition, Globalstar opposes the addition of a new, separate domestic allocation in the Big LEO band for inter-satellite links (“ISLs”), including links between satellites and commercial launch vehicles. Such an allocation is unnecessary and could result in inter-satellite transmissions between non-Globalstar satellites that cause harmful interference to Globalstar’s licensed mobile satellite service (“MSS”) operations.

¹ *Allocation of Spectrum for Non-Federal Space Launch Operations*, Report and Order and Further Notice of Proposed Rulemaking, 36 FCC Rcd 7764 (2021) (“*FNPRM*”).

I. Globalstar’s MSS Business

Globalstar is a leading provider of global mobile satellite voice and data services. Globalstar is licensed for uplink transmissions (mobile earth stations to satellites) in the Big LEO band at 1610-1618.725 MHz, and for downlink transmissions (satellites to mobile earth stations) at 2483.5-2500 MHz.² In 2013, Globalstar completed the launch of a \$1 billion, second-generation non-geostationary (“NGSO”) satellite constellation, and it continues to invest in ground infrastructure upgrades and an expanded line of enterprise, consumer, and government products. Globalstar is dedicated to providing state-of-the-art, mission-critical, and safety-of-life services to over 700,000 consumers, businesses, and governmental and public safety users in over 120 countries around the world, including in remote, unserved, and underserved areas not reached by terrestrial deployments. Overall, utilizing its second-generation constellation and ground facilities, Globalstar continues to provide the highest voice quality, fastest truly mobile data speeds, and most affordable service in the MSS industry.

II. Experimental Licensing is an Efficient Means of Accommodating the Limited Links Between Commercial Launch Vehicles and L-band Satellites

In addition to proposing licensing rules for communications between commercial space launch vehicles and ground stations, the *FNPRM* seeks comment on the authorization process for links between launch vehicles and satellites.³ In particular, the Commission

² *Application of Loral/Qualcomm Partnership, L.P. for Authority to Construct, Launch, and Operate Globalstar, a Low Earth Orbit Satellite System, to Provide Mobile Satellite Services in the 1610-1626.5 MHz/2483.5-2500 MHz Bands*, Order and Authorization, 10 FCC Rcd 2333 (1995); *see also Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Second Order on Reconsideration, Second Report and Order, and Notice of Proposed Rulemaking, 22 FCC Rcd 19733, ¶¶ 8, 18-20 (2007).

³ *FNPRM* ¶ 145.

observes that in some instances “radios designed for communications with the Globalstar or Iridium satellite systems . . . have been used on space launch vehicles in order to utilize those systems for data relay, including for TT&C purposes.”⁴ The Commission then asks whether such communications between launch vehicles and satellites should continue to be licensed on case-by-case, experimental basis, or if these transmissions should instead be authorized under new licensing rules proposed for links between launch vehicles and ground stations.⁵

In Globalstar’s view, the Commission’s case-by-case, experimental licensing procedures remain an appropriate means of accommodating any communications links between commercial space launch vehicles and commercial satellites operating in the L band.⁶ Globalstar does not currently have a significant number of launch vehicle operators utilizing its MSS network, and it does not anticipate supporting a substantial volume of such traffic in the future. For the limited quantity of commercial launch vehicle customers that may emerge over time in the L band, the Commission’s experimental licensing process represents an efficient and timely mechanism for authorizing those operations. Certainly, given the limited nature of this launch vehicle-to-satellite traffic in the L band, it does not make sense to incorporate these links into whatever licensing and regulatory framework the Commission ultimately adopts for the far more extensive communications between launch vehicles and ground stations.

⁴ *Id.*

⁵ *Id.*

⁶ In its brief comments in this proceeding, Iridium does not address how the Commission should license communications links between commercial space launch vehicles and its L-band satellites. Comments of Iridium Communications Inc., ET Docket No. 13-115, RM-11341 (Aug. 11, 2021).

III. The Commission Should Not Add a New Domestic Allocation in the Big LEO Band for Inter-Satellite Links

In seeking comment on the appropriate licensing approach for communications between commercial space launch vehicles and satellites, the *FNPRM* asks if “any changes [are] needed to the Table of Frequency Allocations to provide for such operations?”⁷ In response, a sole commenter, Spaceflight, Inc. (“Spaceflight”), urges the Commission “to include an allocation in the [L band] for inter-satellite service to include payload operations” from free-flying launch vehicles on deployment missions.⁸

The Commission should reject Spaceflight’s proposal for a new domestic allocation at 1610-1626.5 MHz for ISLs, including for links between satellites and commercial launch vehicles. Given the limited volume of such traffic both now and likely into the future, a new allocation for ISL in the Big LEO band is unnecessary. Any communications between launch vehicles and the Big LEO systems can continue to occur on a non-conforming basis with respect to the U.S. Table of Allocations, pursuant to experimental authorizations as described above. In addition, a separate ISL allocation in the Big LEO band would potentially open the door to inter-satellite transmissions between satellites not operated by either Globalstar or Iridium. In contrast to ISLs connecting small satellites or launch vehicles to Big LEO systems, ISLs between non-Globalstar satellites would threaten harmful interference to Globalstar’s licensed MSS operations at 1610-1618.725 MHz. Accordingly, just as the Commission chose not to establish a new Big LEO ISL allocation in 2019 in its

⁷ *FNPRM* ¶ 145.

⁸ Comments of Spaceflight, Inc., ET Docket No. 13-115, RM-11341, at 5-6 (Aug. 11, 2021).

small satellite rulemaking,⁹ it should decline to do so here in the context of launch vehicle-to-satellite communications.

IV. Conclusion

For the aforementioned reasons, the Commission should maintain case-by-case experimental licensing procedures for communications between commercial space launch vehicles and L-band satellites, and should decline to establish a new, separate domestic allocation for inter-satellite links in the Big LEO band.

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⁹ *Streamlining Licensing Procedures for Small Satellites*, Report and Order, 34 FCC Rcd 13077, ¶¶ 115-116 (2019). In its small satellite order, the Commission stated that it “anticipate[d] that we may see requests for inter-satellite link operations between small satellites and the satellites in the Globalstar or Iridium systems, for example. We will continue to treat applications for these or other space-to-space operations as non-conforming with respect to the Table of Allocations where the applicant requests to operate in satellite frequency bands allocated only for operations in the space-to-Earth or Earth-to-space directions . . .” *Id.* ¶ 115.